

Appln. No.: 10/780,947
Amendment Dated October 16, 2006
Reply to Office Action of June 16, 2006

GRY-120US

Amendments to the Drawings:

The attached replacement drawing sheets include changes to Figures 4a and 4b.

Remarks/Arguments:

Examiner Interview Summary

Applicants appreciate the time and courtesy extended by the Examiner Chang and Supervisory Patent Examiner Denion during the Examiner Interview conducted by telephone on September 21, 2006. The Interview Summary mailed on September 21, 2006 requested a statement of the substance of the interview. The Examiner Interview was attended by Kenneth Nigon (Patent Attorney of Record, Reg. No. 31,549), Brett J. Rosen (Patent Agent, Reg. No. 56,047), Examiner Ching Chang and Supervisory Patent Examiner Thomas Denion. During the interview, Mr. Nigon traversed the restriction requirement as it was applied to claim 6/5/1, to which Examiner Chang agreed to reconsider. Mr. Nigon explained why there would be no motivation to combine the Kreuter and Patel references. Examiner's Supervisor Denion suggested that Applicants include a limitation directed to the engine to focus the scope of the claims. The parties also discussed various opportunities to amend the claims. As one option, the parties discussed the possibility of incorporating a feature directed to cushioning contact between the mobile magnetic plate and the electromagnet.

Restriction Requirement

Applicants elected to prosecute the species shown in Figures 4a and 4b without traverse in the Response to Restriction Requirement dated May 8, 2006. Examiner has withdrawn claim 6 from consideration, as being directed to a non-elected species. Applicants respectfully disagree with Examiner's determination that claim 6/5/1 is directed to a non-elected species, and respectfully request reconsideration of this claim. Applicants have reproduced claim 6 in this response for Examiner's convenience.

As discussed in the Examiner Interview, claim 6/5/1 pertains to the elected species shown in Figures 4a and 4b. With reference to Figures 4a and 4b, claim 6/5/1 recites "the electromagnet (401) comprises an E-shaped magnetic circuit, and the stop (B₄₀₀) is located at an end of one of three essentially parallel branches that form the E-shaped magnetic circuit", "when the electromagnet (401) and the plate (406) are in contact with one another, the stop (B₄₀₀) maintains an air gap between each end branch of the magnetic circuit of the electromagnet and the plate (406)." The features of claim

6/5/1 are disclosed in Figures 4A and 4B. Applicants respectfully request reconsideration of claim 6/5/1.

Objection to the Specification:

In response to Examiner's objection, Applicants have claimed priority of France Application No. 03 01945 in the specification. This objection should now be moot in view of Applicants amendment to the specification. This amendment does not constitute a new claim of priority because priority to this French application was claimed on June 18, 2004

Objection to the Drawings:

In response to Examiner's objection, Applicants have removed the stop previously illustrated beneath the magnet in Figure 4b, and have changed item number '301' to '401' in Figure 4a. This objection should now be moot in view of Applicants amendment to the drawings.

Claim Rejections under 35 U.S.C. 112:

Claims 1, 4/1, 5/1, 7/5/1, and 9/1 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite because "said stop" in claim 1 lacks antecedent basis. Applicant's have removed the term "said stop" from claim 1, thus, this rejection should now be moot in view of Applicants amendment to claim 1.

Claim Rejections under 35 U.S.C. 103(a):

Claims 1, 5/1, 7/5/1, 9/1 and 11 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Kreuter (U.S. Patent No. 4,715,332) in view of Patel (U.S. Patent No. 4,533,890). Applicants respectfully request reconsideration of the rejection of these claims and respectfully submit that these claims are patentable over Kreuter and Patel for the reasons set forth below.

Independent claims 1 and 11 recite at least one limitation that is neither disclosed nor suggested by Kreuter and Patel, alone or in combination, namely:

at least one stop being located between said magnet of said electromagnet and said mobile magnetic plate.

As background, Applicants teach that a stop located between the electromagnet and the plate "reduce[s] the contact surface between the plate and the electromagnet and consequently the operating noise of the engine In fact this gain in terms of noise offers advantages ... linked with the comfort of the passengers" (Paragraphs 13-14 of the instant specification).

Kreuter teaches an apparatus and method for controlling a valve actuator. Referring to Figures 1 and 2, a spring loaded plate 46 travels between two opposing electromagnets 64 and 68. The motion of plate 46 between the electromagnets biases the valve to either an open or closed position. An insulation layer 92 is disposed on one side of the plate 46 to prevent the propagation of eddy currents between the legs of electromagnet 64. The opposing side of plate 46 includes a projection 96 (see Figure 2) which creates a gap between the plate 46 and the electromagnet 68. Alternatively, Kreuter teaches that a radial projection 100 may be positioned between the plate 46 and the electromagnet 68 to create a gap. However, Kreuter does not disclose or suggest a permanent magnet.

Although Patel discloses permanent magnets 42 and 44, Patel teaches that the permanent magnets 42 and 44 of Patel are positioned on the mobile plate (referred to as permanent magnet assembly 28). Thus, by virtue of the teachings of both references, if Kreuter and Patel were combined, Patel's permanent magnets 42 and 44 would be positioned on Kreuter's mobile plate 46, and therefore, Kreuter's stop 96 would not be located between Kreuter's plate 46 and Patel's magnet 42 or 44 of the electromagnet, as recited in amended claims 1 and 11. Thus, both references, alone or in combination, fail to disclose at least one limitation of amended claims 1 and 11. Accordingly, because claims 1 and 11 include at least one limitation that is neither disclosed nor suggested by Kreuter or Patel, alone or in combination, *prima facie* obviousness cannot be established based upon the cited references.

Reconsideration of claims 1 and 11 is respectfully requested. Claims 5/1, 7/5/1, and 9/1 are dependent upon claim 1, and therefore should also be allowed at least as

dependent upon an allowable base claim. Reconsideration of claims 1, 5/1, 7/5/1, 9/1, and 11 is respectfully requested.

Claims 1, 4/1, 5/1, 7/5/1, 9/1 and 11 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Wuebbeke (European Patent No. EP0504806) in view of Patel. Applicants respectfully request reconsideration of the rejection of these claims and respectfully submit that these claims are patentable over Wuebbeke and Patel for the reasons set forth below.

Independent claims 1 and 11 recite at least two limitations that are neither disclosed nor suggested by Wuebbeke and Patel, alone or in combination, namely:

at least one stop being located between said magnet of said electromagnet and said mobile magnetic plate, [and]

said mobile magnetic plate configured to come into contact with said at least one stop to prevent contact between the plate and the electromagnet.

Wuebbeke discloses an electromagnetic valve having a support 2, a moving core 3 and an intermediate part 4 positioned between the support 2 and the moving core 3. The objective of the Wuebbeke invention is to achieve shorter switching times by decreasing the width of the moving core 3 (See Column 1, Lines 39-51).

Similar to the rationale above, if Patel and Wuebbeke were combined, Patel's permanent magnets 42 and 44 would be positioned on Wuebbeke's moving core 3, thus, Wuebbeke's intermediate part 4 would not be located between Wuebbeke's moving core 3 and the magnet 42 or 44 of the electromagnet, as recited in amended claims 1 and 11. Thus, both references, alone or in combination, fail to disclose a limitation of amended claims 1 and 11.

Secondly, neither Patel's stop nor Wuebbeke's intermediate part prevents contact between the plate and the electromagnet. More specifically, Patel's plate (i.e., permanent magnet assembly 28) is not configured to come into contact the stop 30 to prevent contact between the plate 28 and the electromagnet. Furthermore, because Wuebbeke's leg 2.2 of the support 2 appears to contact moving core 3 in Figure 1, the

intermediate part 4 of Wuebbeke does not appear to prevent contact between the electromagnet and the moving core 3.

Accordingly, because claims 1 and 11 include limitations that are neither disclosed nor suggested by Patel or Wuebbeke, alone or in combination, *prima facie* obviousness cannot be established based on the cited references.

Reconsideration of claims 1 and 11 is respectfully requested. Claims 4/1, 5/1, 7/5/1, and 9/1 are dependent upon claim 1, and therefore should also be allowed at least as dependent upon an allowable base claim. Reconsideration of claims 1, 4/1, 5/1, 7/5/1, 9/1, and 11 is respectfully requested.

Claims 10, 12 and 13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Kreuter or Wuebbeke in view of Patel, and further in view of design choice. Applicants respectfully request reconsideration of the rejection of these claims and respectfully submit that these claims are patentable over Kreuter, Wuebbeke and Patel for the reasons set forth below.

Claim 10 is dependent upon claim 1 and claims 12 and 13 are dependent upon claim 11. Applicants respectfully submit that claims 10, 12 and 13 are patentable based upon their dependency upon allowable base claims, for the reasons provided above.

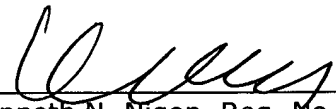
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Conclusion:

In view of the foregoing amendments and remarks, Applicants request that the Examiner reconsider and withdraw the rejection of claims 1, 4-7, and 9-13.

Respectfully submitted,


Kenneth N. Nigon, Reg. No. 31,549
Attorney for Applicants
Brett J. Rosen, Reg. No. 56,047
Registered Patent Agent

KNN/BJR/pb

Enclosure: 1 Replacement Drawing Sheet

Dated: October 16, 2006

P.O. Box 980
Valley Forge, PA 19482
(610) 407-0700

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October 16, 2006


Patricia C. Boccella

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